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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,530

08/16/2006

Edward Steven Warner

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EXAMINER

PATHAK, SUDHANSHU C

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

05/08/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,530	Applicant(s) WARNER, EDWARD STEVEN	
	Examiner SUDHANSHU C. PATHAK	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-34, 38, 39, 41-44, 48, 49, 51-54, 58 and 59 is/are rejected.
- 7) ☒ Claim(s) 35-37, 40, 45-47, 50, 55-57 and 60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/16/06 & 8/22/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 31-60 are pending in the application.
2. Claims 1-30 have been canceled as per the Preliminary amendment dated 08/16/2006.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 31-34, 38-39 (method) & 41-44, 48-49 (apparatus) & 51-54, 58-59 (computer readable medium) are rejected under 35 U.S.C. 102(b) as being anticipated by Eilts (6,393,073).

In regards to Claims 31, 41 & 51, Eilts discloses an automated method (apparatus/computer readable medium) for frequency compensated communications reception including compensating for frequency offset in a received signal by adaptively forming a combination of basis functions and a training sequence that collectively approximate to a desired frequency-shifted signal to be acquired (Abstract, lines 1-13 & Fig.'s 1-2, 4 & Column 3, lines 8-28 & Column 4, lines 28-40, 55-67 & Column 5, lines 1-50 & Column 7, lines 5-65) {Interpretation: The reference discloses a method for frequency offset compensation by adaptively forming a combination of weights (basis vectors) and a training sequence}.

In regards to Claims 32, 42 & 52, Eilts discloses an automated method (apparatus/computer readable medium) for frequency compensated communications reception as described above. Eilts further discloses constructing a reference signal or comparison training sequence that is an adaptively formed combination of basis functions and the training sequence (Column 5, line 54-to-Column 6, line 23) {Interpretation: the reference discloses performing (batch) least squares to initialize for the recursive least squares processing, thus the reference signal (recursive) is formed as a combination of the basis function (weight) and a reference training sequence}.

In regards to Claims 33-34, 38-39, 43-44, 48-49, 53-54 & 58-59, Eilts discloses an automated method (apparatus/computer readable medium) for frequency compensated communications reception as described above. Eilts further discloses acquiring a signal with a receiver having multiple antenna elements (Fig. 1, elements 10-(1...N), "antenna 1....N"), the method including constructing the reference signal by minimizing a cost function constructed from an adaptively weighted combination of basis functions, a training sequence and a received signal, together with a constraint to obtain non-trivial solutions wherein the constrain requires non-zero signal power (Fig. 2) wherein the cost function is given by the equation as recited in claims 39/49/59 (Fig. 2).

Allowable Subject Matter

5. Claim 35-37, 40, 45-47, 50, 55-57 & 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUDHANSHU C. PATHAK whose telephone number is (571)272-5509. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on 571-272-3042.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sudhanshu C Pathak/
Primary Examiner, Art Unit 2611